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CZECHOSLOVAK TECHNOLOGY IN PRODUCING ANTIMONY

The principal contribution of Czechoslovakia to the technology of antimony smelting was made from 1936 to 1946, primarily in the development of the blast furnace process. During 1936-39, two blast furnaces were constructed at a flotation plant at Cucma and five blast furnaces were constructed at the only Czech primary smelter, at Vajskova. These blast furnaces were successfully employed to smelt both oxide and sulfide antimony ores as well as liquation residues, concentrates, and other intermediate smelter products. Five of the seven new blast furnaces were specially built to work up residues and slags from dumps accumulated over previous years at Cucma and Vajskova. Dumped materials were only worked economically, however, during periods of high antimony prices. In the immediate postwar period, Czechoslovak blast furnace facilities were regarded as among the most modern in Europe.

The limited information that is available concerning the subsequent period, however, indicates a probably lag in Czech technology. Information in 1955 indicated that the plant at Vajskova had two antiquated low shaft furnaces, which is a possible verification of an earlier report that the USSR may have dismantled and removed part of the Czech equipment at Vajskova. The most significant recent information is an article carried on 1 March 1961 by the Czech provincial newspaper Smer, deploring the inefficient concentrating of poor domestic ores at Vajskova. In addition, valuable imported Chinese ore was poorly handled, "being exposed to weather and becoming mixed with mud." Moreover, the article concludes, "the obsolete technological process of the plant results in more than one-half of the antimony content of our ore being lost with slags."

It is believed that the principal Czech developmental work on the blast furnace process was carried on during 1936-46, and no information is available indicating any new Czech contribution to antimony-smelting technology. The most recent technological advance in the Soviet Bloc has been the building by the USSR of a fully automated plant for volatilization roasting of antimony ores on a fluidized bed, yielding antimony compounds which are sublimated and converted into oxides. The oxides are then reduced to yield pure antimony.